REMARKS

<u>Status of Claims</u>:   Claims 1-4, 6-15, and 17-33 are in the application. After the Office action of September 20, 2005, Applicant had amended claims 1, 12, 23-27 and 29-33. In view of those amendments, claims 5 and 16 were cancelled.

Claims 1, 12, 23-27 and 29-33, as previously amended, as well as claims dependent from claims 1 and 12, are now in the application for further consideration in light of the present remarks and in light of the block diagram (Attachment A) to the present response. The text of claim 1 is not changed but a formatting amendment is made. In claim 12, an amendment changes one word to correct an issue under §112. Otherwise, the text of the present claims is not changed. Without raising any new issues, Applicants submit the present block diagram and these remarks in order to clarify and simplify the issues and are believed to correct a mistake in the understanding of Katayama by Examiner.

§112 Issue: Examiner rejects claims 12-15 and 17-22, referring to the limitation in claim 12 "said correlation unit" in line 26. This was just an inadvertent typographical error that remained after the previous amended and we appreciate that Examiner has pointed it out. By the present further amendment, the claim now recites "said <u>dissimilarity</u> unit" in line 26. It is believed that this overcomes the §112 Issue and that claims 12-15 and 17-22 fully comply with §112.

<u>Cited Art and §103 Issues</u>: The primary references relied upon by Examiner are Katayama 5,537,496 in view of the technical reference *Sams Teach Yourself Linux in 24 Hours*, by Bill Ball and Stephen Smoogen, copyright 1998, Sams Publishing and Red Hat

Okada et al   13
SN 09/761,623
883098.03

Press ("Ball"). Thus, the combination relied upon is now
Katayama-and-Ball. Based on this combination, Examiner has
rejected 1-4, 6-15, and 17-33.

Applicant respectfully believes that Examiner has
misunderstood Katayama. Applicants wish to point why this is so
by referring to Attachment A, which is a block diagram. It is
also reproduced for convenience here:

{paste it in}

[ATTACHMENT A – REPRODUCED HERE]

It shows a main feature characteristic of the image
recording apparatus of claim 1. Examiner should now compare
this diagram with Figures 1 and 3 of Katayana. The difference
between the present invention and Katayana is immediately
apparent. It shows that they function differently and function
for different respective purposes. They are not related.

In the present invention, the image data is provided
a first converting unit. As the diagram of Attachment A, helps
illustrate, there is a first converting unit [so marked in the
diagram] for converting image data into primary data having an
N-bit range [so marked in the diagram] according to a first
gradation conversion characteristic. Also, there is a second

Okada et al   14
SN 09/761,623
883098.03

converting unit [so marked in the diagram] for converting the image data into secondary data having an M-bit range [as so marked in the diagram] according to a second gradation conversion characteristic that is lower in the degree of level compression than the first gradation conversion characteristic or that causes no level compression, where M is greater than N. The diagram also shows that the N-bit primary data and M-bit secondary data are provided to a dissimilarity calculating unit [which is so marked in the diagram] for calculating dissimilarity between the primary data and the secondary data according to each position of each pixel and employing the calculated data as tertiary data.

Referring to Figs. 1 and 3 of Katayama, Examiner can see that the foregoing features of claim 1 are not provided by Katayama. In page 3 of the Office action, Examiner states that Fig. 1 (30) of Katayama (the gradient conversion table 30) corresponds to the second converting unit of the present invention. However, as one can see from the gradient conversion table 30 in Fig. 3 of Katayama (which is the same as Fig. 1 (30)), the N-bit data is processed at the gradient conversion table 30, where the M-bit data is introduced from there. This is clearly different from the second converting unit in claim 1, where the secondary data is introduced from the image data.

Moreover, on p. 4 of the Office action, second paragraph on the page, Examiner states that Fig. 1 (32) of Katayama (random-number generator 32) corresponds to the dissimilarity calculating unit of the present invention. However, the random-number generator 32 of Katayama and the dissimilarity calculating unit of claim 1 are clearly different from each other, since their respective functions are random-number

Okada et al
SN 09/761,623
883098.03

15

generation and dissimilarity calculating. Also, the dissimilarity calculating unit 32 in Fig. 3 of Katayama [which is the same as in Katayama Fig. 1 (32)] outputs the K-bit data, which is a random number that is introduced irrespective of N-bit data or M-bit data. That is entirely different from the present invention and for a purpose unrelated to the present invention.

If from the foregoing Examiner now understands Katayama, it can be seen that the Katayama-and-Ball combination does not provide a teaching or a coherent or meaningful suggestion to the person having ordinary skill in the art of the claimed features set forth in claim 1, which is clearly different from Katayama if not misunderstood. It would not be useful to the skilled artisan to combine the unrelated teachings of Katayama, which aims to solve the unrelated problem of image "banding" with the teachings of the Ball article so as to provide what is presently set forth in claim 1, as such an attempted combination would not be workable, given the different operational features and different goal of the Katayama reference. Because of these differences, it would not be logical for the skilled artisan to attempt to combine the references, as such an unworkable combination would not motivate the skilled artisan to provide the specific combination of claim 1. *See* In re Kahn[1], No. 04-1616, U.S. Court of Appeals Federal Circuit, 78 U.S.P.Q.2D (BNA) 1329, decided March 22, 2006.

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[1] "'motivation-suggestion-teaching' test asks not merely what references disclose, but whether person of ordinary skill in art, possessed with understandings and knowledge reflected in prior art and motivated by general problem facing inventor, would have been led to make claimed combination, and from this it may be determined whether overall disclosures, teachings, and suggestions of prior art, and level of skill in art, support legal conclusion of obviousness." *78 U.S.P.Q.2D (BNA) 1329, *; USPQ Headnotes 1329, **

Okada et al   16
SN 09/761,623
883098.03

Thus, the present claim 1 is patentable over Katayama and should be held allowable.

Further, for the same reasons, it is not sufficient to further combine the Katayana-Ball combination with either Imai 6,038,369 [as in the case of claims 6-7, 10, 17-18 and 21] or Hayashi 5,754,683 [as in the case of claims 8, 9, 19-20, 29, 31 and 33].

Thus, for the very same reasons as relate to claim 1, dependent claims 2-4 and 6-11 should be allowable as they all relate back to claim 1. (Claim 5 was previously cancelled.)

Claim 1 can be regarded representative in that the same limitations appear also in each of claims 1, 12, 23-27 and 29-33).

Thus, claim 12 adds the following recitals:

> said recording unit is a unit for irreversibly compressing the primary data and recording the irreversibly compressed primary data, and

> said dissimilarity calculating unit is a unit for expanding the irreversibly compressed primary data, calculating data that determines correlation between the expanded primary data and the secondary data, and employing the calculated data as the tertiary data.

As pointed out, the Katayana-Ball combination does not suggest the claimed combination, much less that of claim 12. The diagram of Attachment A (illustrating the operation of the invention) when compared with Figures 1 and 3 of Katayana, shows

Okada et al
SN 09/761,623
883098.03

17

that the present invention and Katayana are different in function and purpose. The Katayana-Ball combination does not teach or suggest the features of claim 12. Therefore, claim 12 and its dependencies claims 12-15 and 17-22 should be patentable in the present application.

For comparable reasons, claims 23-27 should be viewed as patentable over the Katayana-Ball combination. Claim 23 provides:

> 23. (previously amended) A recording medium on which an image processing program is recorded, the image processing program comprising the steps of:
>
> converting image data into primary data having an N-bit range according to a first gradation conversion characteristic;
>
> converting the image data into secondary data having an M-bit range according to a second gradation conversion characteristic that is lower in the degree of level compression than the first gradation conversion characteristic or that causes no level compression, where M is greater than N;
>
> using a dissimilarity calculating unit for calculating dissimilarity between the primary data and the secondary data according to each position of each pixel and employing the calculated data as tertiary data; and
>
> recording the primary data and the tertiary data in a file.

The parallelism of claim 23 with the requirements of claim 1 will be noted. The Katayana-Ball combination does not suggest to the skilled artisan the claimed combination of claims 1, 12 or 23, for the reasons pointed out. The diagram of Attachment A (illustrating the operation of the invention of claim 23 just as it does that of claims 1 and 12) when compared with Figures 1 and 3 of Katayana, shows that the present invention and Katayana

Okada et al
SN 09/761,623
883098.03

18

are different in operational function and purpose. Because the skilled artisan would not be led, for the reasons given above, to consider Katayana so as to combine Katayana and Ball, such Katayana-Ball combination as proposed by the examiner (but only after consideration of the applicants' claim) does not teach or suggest the method features of claim 23. Therefore, claim 23 and its dependency claim 24 should be held allowable in the present application.

Similarly, and for the same reasons of claim 23, because of the same limitations noted above, it should be apparent that claim 25 and claim 26 dependent from claim 25 cannot be considered obvious over the Katayana-Ball combination.

Claim 27 has limitations corresponding to those of claim 1 and 12, and for the reasons set forth above, should be viewed as unobvious and patentable over the Katayana-Ball combination. Dependent claim 28 should accordingly be allowable with claim 27.

Claim 28 is comparable to claim 27 in including the same limitations, being those corresponding to those of claim 1 and 12, and for the reasons set forth above; and should accordingly be allowable in the application.

Claim 29 sets forth an image reproducing apparatus for reproducing a file generated by an image recording apparatus, the limitations therein corresponding to those of claim 28 and so also those of claims 1 and 12, and as previously amended, thus should also be allowed over the Katayana-Ball combination.

19

Claims 30, 31, and 32 were each previously amended to include comparable limitations generally corresponding to those of claims 1 and 12, which define over the Katayana-Ball combination so that they also should be allowable in the application.

Applicants incorporate and restate by reference the arguments and remarks of Amendment B fully as if set forth herein. Thus, for example, Applicants point out that, relative to the cited art, the present claimed invention has a further advantageous effect from storing the primary and tertiary information, in that 1) it can reproduce an average image data based on the primary data only, and 2) it can reproduce image data having a large amount of gradation information data, based on the primary and tertiary data.

Summary: Accordingly, each of claims 1, 12, 23-27 and 29-33, including each of the remaining claims directly or ultimately dependent from claims 1, 12, 23-27 and 29-33, is submitted properly to be patentable in the application as the art, considered by itself apart from the invention of Applicants (and without recourse to hindsight interpretation, which could not be proper). The Ikeda-Ercan-Ball combination fails to provide to the person having ordinary skill in the art at the time of the present invention the features set forth in claims 1-4, 6-15, and 17-33 of the present application.

It is believed that the foregoing resolves all remaining issues, that the application is in good order for allowance, and that a Notice of Allowance should be issued.

Okada et al
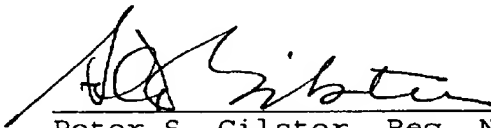SN 09/761,623   20
883098.03

If, however, Examiner Thompson believes there is any remaining issue, which could be readily resolved or other action could be taken to advance this application, such as Examiner's amendment or interview by telephone or in person, it is requested that Examiner please telephone the undersigned representative, Peter Gilster, who will cooperate fully to advance prosecution.

The undersigned believes that no fees are due with this response, as the claim count (but less two cancelled claims) and type of claims remains. But if necessary to effect a timely response, this paper should be considered as a petition for extension of time of length sufficient to be considered timely.

Any fees required are authorized to be charged to Deposit Account No. 07-1985.

Respectfully submitted,

June 1, 2006
Date

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Attachments: BLOCK DIAGRAM (Attachment A)
                 Transmittal with Certificate of Fax Transmission

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Okada et al
SN 09/761,623
883098.03

21